

REMARKS/ARGUMENTS

Claims 1-20 are pending in the application.

CLAIM REJECTIONS

35 U.S.C. § 112, first paragraph

Claims 1-20

The Examiner has rejected Claims 1-20 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Applicant respectfully traverses this rejection.

With respect to independent Claims 1, 8 and 15, the Examiner asserts that the "specification fails to describe how (the) scaling factor is derived or obtained and what is the relationship between the scale (sic) factor and (the) upscaled decompressed image." (Office Action of July 2, 2004; page 2). However, Applicant respectfully asserts that the specification does satisfy the written description requirement under 35 U.S.C. § 112, first paragraph.

Applicant respectfully draws the Examiner's attention to pages 8-9 of the specification wherein Applicant has provided several example implementations of the invention. For instance, in the last full paragraph of page 9 of the specification, Applicant has provided a specific example wherein a scaling factor of $k = 1.25$ (i.e., corresponding to a 1.25:1 image scaling) is employed to upscale a 640x480 image to a 800x600 image. Applicant asserts that in this example, as well as the example of $k = 2$ scaling provided beginning in the paragraph of page 8 of the specification, Applicant has fulfilled the written description requirement. In conclusion, Applicant respectfully requests that the Examiner withdraw his rejection of Claims 1-20 under 35 U.S.C. § 112, first paragraph.

35 USC § 102(b)

Claims 1-20

The Examiner has rejected claims 1-20 under 35 USC § 102(b) as being anticipated by Reisch et al. ("Reisch", U.S. patent # 5,168,375). Applicant respectfully traverses this rejection.

Regarding independent Claims 1, 8 and 15, the Examiner has made several characterizations of the Reisch reference that the Applicant disputes. First, Applicant respectfully disagrees with the Examiner's assertion that Reisch discloses "upsampling a decompressed image by sharpening *and* interpolation" (Office Action of July 2, 2004; page 3, line 7) (emphasis added). Applicant finds no support in Reisch for this assertion. Applicant notes that image sharpening is not necessarily related to image upscaling and, further, that Reisch's sharpening process is not necessarily related to Reisch's interpolation process.

Second, Applicant respectfully disagrees with the Examiner's assertion that "Reisch shows filtering is accomplished to obtain (a) sharpened image [upscaled image]" (Office Action of July 2, 2004; page 3, lines 14-15). Again, Applicant asserts that Reisch does not disclose that a sharpened image is equivalent to an upscaled image. Rather, Applicant notes that Reisch discloses that "(t)he foregoing sharpening is a form of filtering to emphasize certain frequencies at the high end of a truncated frequency spectrum. This can be done by...use of multiplication in the frequency domain." (Reisch; col. 19, lines 4-10). Importantly, to achieve sharpening, Reisch discloses that "only the higher frequency coefficients need to be modified because the higher frequency portion of the spectrum provides the detail in the image" (Reisch; col. 19, lines 15-17). Thus, Applicant asserts that Reisch discloses a sharpening process wherein only higher frequency coefficients are modified rather than all frequency coefficients.

Third, Applicant respectfully disagrees with the Examiner's assertion that column 17, lines 42-46 of Reisch directly discloses "multiplying in the frequency domain DCT coefficients with filter kernel" (Office Action of July 2, 2004; page 3, lines 10-11). Applicant notes that this portion of Reisch does not contain the excerpted quotation cited by the Examiner. In fact, Applicant notes that this portion of Reisch actually discloses "In the sharpening unit 106 filtering is accomplished by...multiplication in the frequency domain employing the DCT by use of a procedure wherein individual ones of the 8-by-8 blocks of data samples are selected, in a manner to be described, to be processed sequentially by the filter kernel. The 5-by-5 matrix of a linear-phase filter kernel is to be reduced, in the spatial domain, to a 3-by-3 array of terms, followed by zero-padding to produce an 8-by-8 modified kernel." (Reisch; col. 17, lines 37-49). Thus, Applicant asserts that Reisch discloses multiplying some (i.e., higher frequency)

coefficients to achieve image filtering/sharpening not image upscaling. Hence, Applicant asserts that Reisch does not disclose "multiplying frequency domain coefficients for the decompressed image by a scale factor to achieve a desired amount of image upscaling" as claimed.

Notwithstanding the veracity of the Examiner's assertions regarding the teachings of Reisch, which Applicant disputes as detailed above, Applicant further asserts that the Examiner has failed to show where and/or how Reisch discloses "multiplying frequency domain coefficients for the decompressed image by a scale factor **to achieve a desired amount of image upscaling**" (emphasis added) as claimed in independent claims 1, 8 and 15. Applicant respectfully reminds the Examiner that in order to sustain an anticipation rejection under 35 U.S.C. 102(b) the Examiner must show that "each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference" (*Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631 (Fed. Cir. 1987)).

In conclusion, Applicants assert that independent Claims 1, 8 and 15 and their associated dependant Claims are not anticipated by Reisch and respectfully request that the Examiner withdraw his rejection of Claims 1-20 under 35 U.S.C. 102(b).

CONCLUSION

In view of the foregoing, it is respectfully asserted that all of the claims pending in this patent application are in condition for allowance.

Should it be determined that an additional fee is due under 37 CFR §§1.16 or 1.17, or any excess fee has been received, please charge that fee or credit the amount of overcharge to deposit account #02-2666.

If the Examiner has any questions, he is invited to contact the undersigned at (503) 264-6473. Reconsideration of this patent application and early allowance of all the claims is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'R. D. Hinchliffe', with a long horizontal line extending to the right.

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